

**Exercise 1** Vertical Lines

**Callout.** Vertical lines do not have a slope. They consist of all points with the same  $x$ -coordinate. For example, the linear relationship with data given in this table consists of points with  $x$ -coordinate equal to 5.

$x$	$y$
5	-1
5	0
5	1
5	2

Since this line does not have a slope, we can not express its equation in either point-slope or slope-intercept forms. Instead, a vertical line has an equation of the form  $x = C$ , where  $C$  is the common  $x$ -coordinate between all the points, meaning that the line given in the table above has equation  $x = 5$ .

- (a) The line given by the following table of data:

$x$	$y$
2	-3
2	1
2	1
2	3
2	5

has equation given by  $x = \boxed{2}$ .

- (b) The line given by the following table of data:

$x$	$y$
$-3/4$	-8
$-3/4$	-7
$-3/4$	-6
$-3/4$	-5

has equation given by  $x = \boxed{-\frac{3}{4}}$ .